

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

APPEAL NO. _____

First named inventor: Joseph S. Ng

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Art Unit: 3629

Title: NETWORK-CENTRIC CARGO SECURITY
SYSTEM

Confirm. No. 4304

APPEAL BRIEF

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1. REAL PARTY IN INTEREST

The real party in interest is the assignee, The Boeing Company.

2. RELATED APPEALS AND INTERFERENCES

No appeals or interferences are known to have a bearing on the Board's decision in the pending appeal.

3. STATUS OF CLAIMS

Claims 1-26 are cancelled.

Claims 27-33 are pending.

Claims 27-33 are rejected.

The rejections of claims 27-33 are being appealed.

4. STATUS OF AMENDMENTS

No amendment was filed subsequent to the non-final office action dated 2 Sept. 2009.

5. SUMMARY OF CLAIMED SUBJECT MATTER

Base claim 27

Base claim 27 recites a system for maintaining security of a cargo container during shipment from an origination point to a destination. In the embodiment illustrated in Figure 1, a cargo container 130 is shipped from an origination point 110 to a destination port 114. The system 100 of Figure 1 includes means for determining geographic location of the cargo container 130 during shipment from the origination point 110 to the destination 114 (e.g., a GPS receiver), and a battery-powered container security unit (CSU) 132 for the container 130 (paragraph 18). The CSU 132 reports on status of the cargo container 130 during the shipment, wherein frequency of the reporting is a function of the geographic location of the container 130 (paragraph 30, lines 8-11).

Base claim 32

Base claim 32 recites a system for maintaining security of a cargo container during shipment from an origination point to a destination. In the embodiment illustrated in Figure 1, a cargo container 130 is shipped from an origination point 110 to a destination port 114. The system 100 of Figure 1 includes a device for determining geographic location of the cargo container 130 during shipment from the origination point 110 to the destination 114 (e.g., a GPS receiver), and a battery-powered container security unit (CSU) 132 for the container 130 (paragraph 18). The CSU 132 reports on status of the cargo container 130 during the shipment, wherein frequency of the reporting is a function of the geographic location of the container 130 (paragraph 30, lines 8-11).

The CSU 132 operates in a high power communications mode during transit to communicate with a network operations center 102 (paragraph 30, lines

5-6). The CSU 132 switches to a low power wireless network mode to communicate with the network operations center 102 when wireless network communication is available (paragraph 31, lines 7-9).

Dependent claim 28

Claim 28, which depends from claim 32, recites a CSU bridge 146 for extending range of the wireless network communication so the CSU 132 can operate longer in the low-power wireless network mode (Figure 1 and paragraph 23, lines 5-8).

Base claim 33

Base claim 33 recites a system. In the embodiment illustrated in Figure 1, a cargo container 130 is shipped from an origination point 110 to a destination port 114. The system 100 of Figure 1 includes a cargo container 130 and battery-powered security means (e.g., a CSU) 132 for maintaining security of the container 130 during shipment from an origination point 110 to a destination 114 (paragraph 18). The security means 132 reports on status of the cargo container 130 during the shipment, wherein frequency of the reporting is a function of the geographic location of the container 130 (paragraph 30, lines 8-11).

The security means 132 operates in a high power communications mode to communicate with a network operations center 102 during shipment (paragraph 30, lines 5-6). The security means 132 switches to a low power wireless network mode to communicate with the network operations center 102 when wireless network communication is available (paragraph 31, lines 7-9). Battery power is saved by switching to the wireless network mode.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

- a. Rejection of claim 27 under 35 USC §102(e) as being anticipated by Webb U.S. Publication No. 2004/0257225.
- b. Rejection of claims 27-31 under 35 USC §102(e) as being anticipated by Peel U.S. Publication No. 20080117040.
- c. Rejection of base claims 32 and 33 under 35 USC §103(a) as being unpatentable over Peel in view of Koenck U.S. Publication No. 20040182936.
- d. Rejection of base claims 32 and 33 under 35 USC §112, second paragraph, as being indefinite.

7. ARGUMENTS

I

REJECTION OF CLAIM 27 UNDER 35 USC §102(E) AS BEING ANTICIPATED BY WEBB U.S. PUBLICATION NO. 2004/0257225

Omission of an essential element

According to MPEP 2131, "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)."

Webb is silent about the frequency of reporting. Webb discloses a system for monitoring a security status of fixed and mobile assets (Abstract). The system includes an agent, which refers to a self-powered sensing and communicating device for monitoring a physical location and a security status of a mobile asset such as a cargo container (paragraphs 46-47). Figure 3 of Webb illustrates a plurality of containers that are transported by a transport vehicle 120, with an agent 200 connected with each of the containers 160 (paragraph 55). The agents 200 may receive position data from a GPS satellite 142, and monitor security status of the containers 160 during transport between a shipper's loading dock 60, origination port 70, and destinations 85 and 90 (paragraph 53).

An agent communicates with a global operations monitoring and analysis center (GOMAC) 50 when a possible violation to the health or integrity of the container is detected (paragraphs 57 and 73). One of the agents within range of a communications satellite 140 is designated as the primary agent to communicate with the GOMAC (paragraph 55).

Figure 8 illustrates communications between the agents and communications with the various satellites. According to paragraph 73, each

agent monitors the security status of its container and transmits security status to a master control unit or the primary agent. One of the agents receives GPS data and shares that data with the other agents. Complied security status and GPS position are transmitted via network to a primary agent, which retransmits the data to the GOMAC.

Webb does not expressly or inherently describe reporting frequency that is a function of geographic location of a cargo container. Therefore, the '102 rejection over Webb should be withdrawn.

Legal error – ignoring claim language

The office action ignores the feature “wherein frequency of the reporting is a function of the geographic location of the container.” The office action even admits to ignoring this feature. In pages 3-4, the office action asserts that the frequency of reporting is given no patentable weight because it is an “intended use.” It does not explain how or why the reporting frequency is an intended use.

The frequency of reporting is not an “intended use.” It is a functional feature that allows a container security unit to conserve precious battery power.

“Intended use” issues are typically raised with respect to the preamble of a claim. Here, however, the language being ignored is recited in the body, not the preamble. Moreover, MPEP 2111.02 does give an examiner a license to ignore “intended use” language. “[S]tatements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the recited purpose or intended use results in a structural difference.” The office action fails to make this evaluation.

MPEP 2143.03 states "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). The office action must consider the

functional feature “reporting that is a function of the geographic location of the container.” The office action commits legal error by failing to do so.

II

REJECTION OF CLAIMS 27-31 UNDER 35 USC §102(E) AS BEING ANTICIPATED BY PEEL U.S. PUBLICATION NO. 20080117040

Claim 27

Omission of an essential element

According to MPEP 2131, "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)."

Peel is silent about the frequency of reporting. Peel discloses a cargo system including shipping containers 160 aboard a cargo ship 170 (paragraph 35). Terminals 190 are attached to the containers 160 (paragraph 47). The terminals may be battery powered (paragraph 120). The terminals 190 are networked together to form an ad hoc network such as a piconet (paragraphs 47-48). Each terminal 190 in the piconet can also communicate with a communication satellite 130, GPS system 150, ship's bridge 180, Coast Guard vessel, etc. (paragraph 50). The piconet can communicate with a remote entity (e.g., a Coast Guard vessel) using either satellite communications or high power radio (paragraphs 40-41). Radio is used as backup in the event the satellite communication fails (paragraph (paragraph 41)).

According to paragraph 73, routine ongoing position tracking can be performed via a GPS system. Reporting can be performed on a regular schedule

or in an operator query mode. In the event of a security breach, an alarm signal would be transmitted.

Peel is silent about a schedule that is adjusted according to geographic location of the ship 170. Thus, Peel does not expressly or inherently describe reporting frequency that is a function of geographic location of a cargo container. Therefore, the '102 rejection over Peel should be withdrawn.

Legal error – ignoring claim language

The office action ignores the feature “wherein frequency of the reporting is a function of the geographic location of the container.” The office action even admits to ignoring this feature. In pages 3-4, the office action asserts that the frequency of reporting is given no patentable weight because it is an “intended use.” It does not explain how or why the reporting frequency is an intended use.

The frequency of reporting is not an “intended use.” It is a functional feature that allows a container security unit to conserve precious battery power.

“Intended use” issues are typically raised with respect to the preamble of a claim. Here, however, the language being ignored is recited in the body, not the preamble. Moreover, MPEP 2111.02 does give an examiner a license to ignore “intended use” language. “[S]tatements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the recited purpose or intended use results in a structural difference.” The office action fails to make this evaluation.

MPEP 2143.03 states “All words in a claim must be considered in judging the patentability of that claim against the prior art.” In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). The office action must consider the

functional feature “reporting that is a function of the geographic location of the container.” The office action commits legal error by failing to do so.

Claims 28-31

The ‘102 rejection is based on several legal errors.

The office action does not allege prima facie anticipation of claims 28-31. Claims 28-31 depend indirectly from *base claim 32, which is currently rejected under section 103*. The office action admits that Peel does not describe all elements of base claim 32. By extension, Peel does not disclose all elements of dependent claims 28-31. For this reason alone, the ‘102 rejection of claims 28-31 should be withdrawn.

The ‘102 rejection of claim 28 should be withdrawn for the additional reason that claim language is ignored. Claim 28 recites a CSU bridge for extending range of the wireless network communication so the CSU can operate longer in the low-power wireless network mode.

In pages 5 and 8 of the office action, the CSU bridge is interpreted to read on the bridge 180 of a cargo ship (paragraph 50, line 5). The interpretation ignores the features about the bridge being a CSU bridge and the bridge capable of extending range of the wireless network communication. Ignoring claim language is legal error. "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Moreover, claims 28-31 are not being given their broadest reasonable interpretation consistent with the specification. See the Federal Circuit's *en banc* decision in Phillips v. AWH Corp., 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir.

2005). Paragraph 23 of the specification describes a CSU bridge as “any IEEE 802.11, IEEE 1392 and/or other transceiver capable of communicating with CSU 132 in a wireless manner.”

The interpretation of claims 28-31 is not consistent with the interpretation that those skilled in the art would reach, as required by MPEP 2111. The CSU bridge is described in the context of wireless communications, not a ship structure. A bridge, in network parlance, is a device that connects multiple network segments at the data link layer (layer 2) of the OSI model (see, e.g., http://en.wikipedia.org/wiki/Network_bridge).

Thus, the office action ignores claim language and provides an interpretation that is neither consistent with the specification nor consistent with the interpretation that those skilled in the art would reach. Based on these legal errors, the ‘102 rejection of claims 28-31 should be withdrawn.

The ‘102 rejection also omits elements necessary to establish prima facie anticipation. Peel does not disclose a CSU bridge for extending range of the wireless network communication. For this additional reason, the ‘102 rejection of claim 28-31 should be withdrawn.

III

REJECTION OF BASE CLAIMS 32 AND 33 UNDER 35 USC §103(A) AS BEING UNPATENTABLE OVER PEEL IN VIEW OF KOENCK U.S. PUBLICATION NO. 20040182936

Argument II, claim 27, is incorporated herein by reference. To summarize, (1) the office action ignores the feature “wherein frequency of the reporting is a function of the geographic location of the container”; and (2) Peel is silent about frequency of the reporting that is a function of the geographic location of a cargo container.

Omission of an essential element in ‘103

Koenck is also silent about reporting frequency that is a function of geographic location of a cargo container. Koenck relates to transmitting data by RF processes on a real time basis to a central station (paragraph 4). Koenck describes a mobile communications system having a short range transceiver and a long-range transceiver (paragraph 17). For example, transceiver 17 is a high-powered FM transceiver that can communicate over 5,000 feet (paragraph 42) and transceiver 25 is a low power transceiver that has a maximum range of no more than a few hundred feet (paragraph 45). Because the low power transceiver 25 has “significant cost advantages,” it is used for communication over short distances. No mention is made about adjusting the frequency of reporting as a function of geographic location of a cargo container.

Thus, the combined teachings of Peel and Koenck omit an essential element necessary to establish prima facie obviousness. Accordingly, the ‘103 rejection of claims 32 and 33 should be withdrawn.

Additional legal error in '103 rejection

The '103 rejection does not comply with MPEP 2142 and the Supreme Court's holding in *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007). Rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."

Page 7 of the office action cites paragraphs 44, 47, 77 and 91 of Koenck and alleges that it would be obvious to modify Peel's system to provide an "integrated communications means which increases efficiency in data collection and improves the functionality of the transmitting/communicating means."

The allegation consists solely of platitudes. The office action does not explain how or why efficiency of data collection would be increased, nor does it explain how functionality of transmitting or communicating would be improved. Thus, the office action offers little more than a bald conclusion of obviousness. For this additional reason, the '103 rejection of claims 32 and 33 should be withdrawn.

IV

REJECTION OF BASE CLAIMS 32 AND 33 UNDER 35 USC §112, SECOND PARAGRAPH, AS BEING INDEFINITE

The primary purpose of the requirement of definiteness of claim language is to ensure that the scope of the claims is clear so the public is informed of the boundaries of what constitutes infringement of the patent. See MPEP 2173.

The office action rejects claims 32 and 33 as being indefinite, alleging that it isn't clear whether these claims recite methods or systems. The '112 rejections should be withdrawn because there is no confusion. The preambles of both claims clearly recite systems and the bodies recite structure thereof.

Claim 32

Claim 32 recites a system including a combination of a device and a battery-powered container security unit (CSU). The CSU has certain functionality, which is also recited in claim 32.

Claim 33

Claim 33 recites a cargo container and battery-powered security means for maintaining security of the container during shipment from an origination point to a destination. Claim 33 clearly recites "means for" language, not "step for" language.

According to MPEP 2181, claim 33 invokes the sixth paragraph of 35 USC 112. A claim limitation will be presumed to invoke 35 U.S.C. 112, sixth paragraph, if it meets the following 3-prong analysis:

(A) the claim limitations must use the phrase "means for" or "step for;"

(B) the "means for" or "step for" must be modified by functional language;
and

(C) the phrase "means for" or "step for" must not be modified by sufficient structure, material, or acts for achieving the specified function.

According to MPEP 2181, the Patent Office may not disregard the structure disclosed in the specification corresponding to such language when rendering a patentability determination. The office action commits legal error by disregarding the structure.

For the reasons above, the rejections should be reversed. The Honorable Board of Patent Appeals and Interferences is respectfully requested to reverse the rejections.

Respectfully submitted,

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Date: May 24, 2010

8. CLAIMS APPENDIX

Claims 1-26 (Cancelled)

27. (Previously presented) A system for maintaining security of a cargo container during shipment from an origination point to a destination, the system comprising:

means for determining geographic location of the cargo container during shipment from the origination point to the destination; and

a battery-powered container security unit (CSU) for the container, the CSU reporting on status of the cargo container during the shipment, wherein frequency of the reporting is a function of the geographic location of the container.

28. (Previously presented) The system of claim 32, further comprising a CSU bridge for extending range of the wireless network communication so the CSU can operate longer in the low-power wireless network mode.

29. (Previously presented) The system of claim 28, further comprising means for moving cargo containers, the CSU bridge attached to the cargo-moving means.

30. (Previously presented) The system of claim 28, wherein the CSU bridge is located in a location where direct communication links are not available.

31. (Previously presented) The system of claim 28, wherein the CSU bridge provides positional information to the CSU.

32. (Previously presented) A system for maintaining security of a cargo container during shipment from an origination point to a destination, the system comprising:

- a device for determining geographic location of the cargo container during shipment from the origination point to the destination; and

- a battery-powered container security unit (CSU) for the container, the CSU reporting on status of the cargo container during the shipment, wherein frequency of the reporting is a function of the geographic location of the container;

- the CSU operating in a high power communications mode during transit to communicate with a network operations center;

- the CSU switching to a low power wireless network mode to communicate with the network operations center when wireless network communication is available.

33. (Previously presented) A system comprising:

- a cargo container; and
- battery-powered security means for maintaining security of the container during shipment from an origination point to a destination;
- the security means reporting on status of the cargo container during the shipment, wherein frequency of the reporting is a function of the geographic location of the container;
- the security means operating in a high power communications mode to communicate with a network operations center during shipment;
- the security means switching to a low power wireless network mode to communicate with the network operations center when wireless network communication is available;
- whereby battery power is saved by switching to the wireless network mode.

9. EVIDENCE APPENDIX

None

10. RELATED PROCEEDINGS APPENDIX

None